

# **National Reading Panel findings: Selecting software to support effective reading strategies...**

*What does the research say about  
effective reading practice?*

*Can we find effective features in literacy  
software design?*

# Phonemic Awareness

- The ability to recognize, manipulate, and think about the individual sounds in words through the auditory modality.
- *Phonemes* are the smallest units of sounds in spoken words.
- Awareness of sounds in words dramatically improves ability to learn to decode and spell.
- Students who have *phonemic awareness* are likely to have an easier time learning to read than those students that don't.

# A Closer Look at Phonemic Awareness Research

- Effective PA instruction focuses on two skills rather than one or many skills.
- PA instruction is most effective below 2nd grade.
- PA instruction does not improve the spelling skills of older disabled readers.
- Manipulating sounds helps in both learning to read and to spell.
- Effective in boosting reading comprehension.

*Goal: For learners to  
successfully recognize and  
manipulate the phonemes  
in spoken words.*

*What might be an effective  
feature to seek in literacy  
software design for  
Phonemic Awareness?*

# Phonics Instruction

- Emphasizes the relationship between the letters and the sounds of written words, and teaches students to use that relationship in reading and spelling.
- Effective *phonics instruction* emphasizes the systematic and predictable patterns in written words.
- Systematic and explicit *phonics instruction* works better than non systematic or indirect methodologies.
- The goal of *phonics instruction* is to make decoding so efficient that the focus during reading can be on comprehension.

# A Closer Look at Phonics Research

- Phonics instruction is significantly more effective for younger (K-1) readers.
- Phonics instruction DID improve reading comprehension for older reading disabled students who would by definition have typical IQ and receptive language.
- The one group that DID NOT benefit from phonics instruction was older, low achieving readers – the only group with below average IQ.
- Phonics instruction DID NOT improve reading comprehension or spelling for older, low achieving readers - the only group with below average IQ.

*Goal: For learners to  
acquire knowledge and  
skills in using the alphabetic  
code to learn to read and  
comprehend.*

*What might be an effective  
feature to seek in literacy  
software design for  
Phonics?*

# Fluency

- Fluency is the ability to read accurately and quickly.
- Fluency involves reading with expression in a natural manner; and carries over from oral to silent reading.
- Developing fluency enables a reader to read connected text in a natural manner, in order to access comprehension.
- Fluency is about reading entire texts, not just words in isolation.



# A Closer Look at Fluency Research

- Over emphasizing fluency has a negative impact on comprehension.
- Effective fluency instruction occurs in brief segments and is only one piece of a comprehensive instructional program.
- Guided oral reading and repeated reading improve word recognition and fluency.

*Goal: For learners to read  
with sufficient speed,  
accuracy and expression.*

*What might be an effective  
feature to seek in literacy  
software design for  
Fluency?*

# Vocabulary

- Refers to words we use expressively in speaking and writing, as well as receptively through listening and reading.
- Students must call upon their knowledge of individual word meanings to make sense of connected text.
- Broad knowledge of vocabulary becomes increasingly important as more difficult and less familiar topics are encountered in text.

# A Closer Look at Vocabulary Research

- Listening to storybooks as a means of building vocabulary is most effective for high-ability students.
- Direct instruction of vocabulary using a mix of keywords, concept building, and definitions supports comprehension.
- Vocabulary instruction must extend across class periods and contexts.
- Defining words within the context of text (redundant information) supports comprehension and vocabulary learning.
- Partner reading can lead to more vocabulary learning than independent reading.

*Goal: For learners to enrich  
and enlarge their lexicon  
and thereby; broaden and  
strengthen reading  
comprehension.*

*What might be an effective  
feature to seek in literacy  
software design for  
Vocabulary?*

# Text Comprehension

- The ultimate goal of reading.
- Text comprehension is active and purposeful.
- Direct instruction in text comprehension focuses on:
  - Monitoring comprehension
  - Being strategic
  - Asking and answering questions
  - Summarizing

# A Closer Look at Text Comprehension Research

- Generating questions while reading is highly effective.
- Answering questions generated by the teacher has limited effects on comprehension.
- Visualization/mental images help readers remember specific sentences and paragraphs, but DO NOT have a positive influence on passage comprehension.
- Summarization instruction has a positive effect on comprehension of main ideas, memory for the text itself, and integration of ideas presented in the text.

*Goal: For learner to  
thoroughly extract meaning  
from print, increasing  
understanding of the world  
around them.*

*What might be an effective  
feature to seek in literacy  
software design for Text  
Comprehension?*



# Thoughts for Implementation

- When schools adopt software:
  - They usually begin with a small-scale purchase
  - They evaluate the software on their own before adopting on a large scale.
- Joint planning can support this process:
  - Work with schools in conducting initial research and keep careful records regarding effective technology intervention.
  - Plan implementation in a way that classrooms can use supplemental software independently.